

IN THE CLAIMS

1. (Currently Amended) A computer-implemented method for enforcing policy over a computer network, the method comprising:

selecting a dictionary, the dictionary including a plurality of concepts, one concept identified as a maximal element, and a plurality of chains connecting the maximal element to other concepts in the directed set;

selecting a set of chains to form a basis;

selecting at least one concept in the dictionary;

creating a state vector in a topological vector space for the selected concepts, wherein each state vector includes at least one measure of how concretely the concept is represented in each chain in the basis;

assembling a first subset of the state vectors in the topological vector space into a template;

~~defining a template, the template including a first subset of vectors in a topological vector space,~~ the topological vector space including at least one vector not in the template;

assigning a policy to the computer network;

monitoring a content stream on the computer network to construct an impact summary including a second subset of the vectors in the topological vector space; and

enforcing the policy when the impact summary is within a threshold distance of the template.

2. (Original) A method according to claim 1, wherein assigning a policy includes assigning a policy to limit bandwidth on the computer network for content in the content stream within the threshold distance of the template.

3. (Original) A method according to claim 1, wherein assigning a policy includes assigning a policy to limit access to a document on the computer network within the threshold distance of the template.

4. (Original) A method according to claim 1, wherein monitoring a content stream includes monitoring metadata of the content stream.

5. (Currently Amended) A method according to claim 1, wherein monitoring a content stream includes:

monitoring a portion of the content stream on the computer network;
constructing the impact summary including the second subset of the vectors in the topological vector space from the portion of the content stream; and

extrapolating how close the entire content stream is to the template from the portion of the content stream by measuring the distance from using the impact summary to and the template.

6. (Canceled)

7. (Currently Amended) A computer-readable medium containing a program operable on a computer to enforce policy over a computer network, the program comprising:
selection software to select a dictionary, the dictionary including a plurality of concepts; one concept identified as a maximal element, and a plurality of chains connecting the maximal element to other concepts in the directed set;

selection software to select a set of chains to form a basis;

selection software to select at least one concept in the dictionary;

creation software to create a state vector in a topological vector space for the selected concepts, wherein each state vector includes as its components measures of how concretely the concept is represented in each chain in the basis;

definition software to define a template, the template including a first subset of vectors in a the topological vector space, the topological vector space including at least one vector not in the template;

assignment software to assign a policy to the computer network;

monitoring software to monitor a content stream on the computer network to construct an impact summary including a second subset of the vectors in the topological vector space; and

enforcement software to enforce the policy when the impact summary is within a threshold distance of the template.

8. (Original) A program according to claim 7, wherein the assignment software includes assignment software to assign a policy to limit bandwidth on the computer network for content in the content stream within the threshold distance of the template.

9. (Original) A program according to claim 7, wherein the assignment software includes assignment software to assign a policy to limit access to a document on the computer network within the threshold distance of the template.

10. (Original) A program according to claim 7, wherein the monitoring software includes monitoring software to monitor metadata of the content stream.

11. (Currently Amended) A program according to claim 7, wherein the monitoring software includes:

monitoring software to monitor a portion of the content stream on the computer network;
construction software to construct the impact summary including the second subset of the vectors in the topological vector space from the portion of the content stream; and

extrapolation software to extrapolate how close the entire content stream is to the template from the portion of the content stream by measuring the distance from using the impact summary to and the template.

12. (Canceled)

13. (Currently Amended) An apparatus for enforcing policy over a computer network, the apparatus comprising:

a computer;

a directed set stored in the computer including a plurality of concepts, one concept identified as a maximal element, and a plurality of chains stored extending from the maximal element to other concepts;

a basis including a subset of the plurality of chains;

for at least one concept in the directed set, a state vector in a topological vector space, wherein each state vector includes at least one measure of how concretely the concept is represented in each chain in the basis;

a template stored in the computer, the template including a first subset of the state vectors in ~~a~~ the topological vector space, the topological vector space including at least one vector not in the template;

a policy associated with the template;

a monitor installed in the computer adapted to monitor a content stream in the computer network to construct an impact summary including a second subset of the state vectors in the topological vector space; and

a policy enforcer adapted to enforce the policy when the monitor determines the impact summary to be within a threshold distance of the template.

14. (Original) An apparatus according to claim 13, wherein the monitor is adapted to monitor metadata about the content stream.

15. (Original) An apparatus according to claim 14, wherein the metadata about the content stream includes a percentage of the network dedicated to the content stream.

16. (Currently Amended) An apparatus according to claim 13, wherein:
the monitor is adapted to monitor only a portion of the content stream on the computer network and construct the impact summary including the second subset of the vectors in the topological vector space from the portion of the content stream; and
the policy enforcer is adapted to extrapolate how close the entire content stream is to the template from the portion of the content stream by measuring the distance from using the impact summary to and the template.

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)

21. (Previously Presented) A method according to claim 1, wherein enforcing the policy includes:

measuring a distance between the impact summary and the template; and
enforcing the policy if the distance is less than the threshold distance.

22. (Previously Presented) A method according to claim 21, wherein measuring a distance includes using a Hausdorff distance function to measure the distance between the impact summary and the template.

23. (Previously Presented) A program according to claim 7, wherein the enforcement software includes:

measurement software to measure a distance between the impact summary and the template; and

enforcement software to enforce the policy if the distance is less than the threshold distance.

24. (Previously Presented) A program according to claim 23, wherein the measurement software includes measurement software to use a Hausdorff distance function to measure the distance between the impact summary and the template.

25. (Previously Presented) An apparatus according to claim 1, wherein: the policy enforcer includes a distance measurer to measure a distance between the impact summary and the template; and

the policy enforcer is adapted to enforce the policy if the distance is less than the threshold distance.

26. (Previously Presented) An apparatus according to claim 25, wherein the distance measurer includes a Hausdorff distance measurer to use a Hausdorff distance function to measure the distance between the impact summary and the template.

27. (Previously Presented) A method according to claim 1, wherein:
defining a template includes defining the template, the template including the first subset of the vectors in the topological vector space, the first subset of the vectors including at least first and second vectors; and

monitoring a content stream includes constructing the impact summary including the second subset of the vectors in the topological vector space, the impact summary including at least third and fourth vectors.

28. (Previously Presented) A method according to claim 27, wherein enforcing the policy includes:

measuring a distance between the template including the first and second vectors, and the impact summary including the third and fourth vectors; and

enforcing the policy if the distance is less than the threshold distance.

29. (Previously Presented) A program according to claim 7, wherein:
the definition software includes second definition software to define the template, the template including the first subset of the vectors in the topological vector space, the first subset of the vectors including at least first and second vectors; and

the monitoring software construction software to construct the impact summary including the second subset of the vectors in the topological vector space, the second subset of the vectors including at least third and fourth vectors.

30. (Previously Presented) A program according to claim 7, wherein the enforcement software includes:

measurement software to measure a distance between the template including the first and second vectors, and the impact summary including the third and fourth vectors; and

enforcement software to enforce the policy if the distance is less than the threshold distance.

31. (Previously Presented) An apparatus according to claim 13, wherein:
the first subset of the vectors includes at least first and second vectors; and
the second subset of the vectors includes at least third and fourth vectors.

32. (Previously Presented) An apparatus according to claim 31, wherein:
the policy enforcer includes a distance measurer to measure a distance between the
template including the first and second vectors, and the impact summary including the third and
fourth vectors; and
the policy enforcer is adapted to enforce the policy if the distance is less than the
threshold distance.